MAIN LANDING GEAR

The airplane has four main landing gear units; two on each side of the fuselage. Each consists of a shock strut with four 15.00-16 Type III wheels and tires mounted on a single axle. Each wheel is equipped with a brake. The shock strut is an air-oil type shock absorber with the upper length serving as both a structural extension of the shock strut when latched and as a retraction cylinder when unlatched.

The landing gear is supported by the fuselage at three points; two points at the cargo floor level, and a third point which attaches to a fuselage frame slightly below the wing. During retraction, the axles are mechanically rotated 90° so as to present eight wheels in line longitudinally on each side of the fuselage. As the wheels rotate and rise, they retract into a faired pod at the lower outboard corner of the fuselage. Doors, which are mechanically operated by the retraction motion of the strut, close during retraction and form a smooth contoured pod.

In case of hydraulic failure, gravity will extend the gear and a bungee will help rotate the wheel rotating latch links to the "on center" position. These on-center links keep the torque about the shock strut centerline out of the gear and pinion which rotate the axle and rolling assembly.

Note:

The retraction motion of the landing gear on the full scale mock-up has been considerably compromised because of the fixed ground position. Normally the rolling assembly would drop a distance of 20 1/2 inches from the position shown before retraction would start. Axle rotation and rise would then take place simultaneously for the first part of the retraction cycle. On the mock-up an electric motor has been employed to completely rotate the axle before any vertical rise takes place. This is necessary for clearance reasons. The 1/8 scale model of the main gears has been made to show the retraction motion and means of rotation that is proposed for a prototype airplane.

NOSE LANDING GEAR

The nose landing gear is supported at four points on the fuselage structure. The two aft points constitute the retraction axis and the two forward points attach the upper drag links. The nose gear retracts forward and up into the wheel well. Doors mechanically operated by linkage from the retraction axis close during retraction and form a smooth contoured surface for the underside of the fuselage nose.